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Arson

- A Guide for Investigating Fire and Arson (<https://www.nij.gov/topics/law-enforcement/investigations/crime-scene/guides/fire-arson/pages/welcome.aspx>), 4/15/2019
This 2009 NIJ publication describes recommended practices for the collection and preservation of evidence at fire scenes. This guide may provide areas of cross examination in cases where the recommended policies were not followed.
- Fire and Arson Scene Evidence: A Guide for Public Safety Personnel (<https://www.ncjrs.gov/pdffiles1/nij/181584.pdf>), 4/15/2019
2000 NIJ publication written and approved by the Technical Working Group on Fire/Arson Scene Investigation. Includes recommendations about preserving the scene, interviewing witnesses, documentation, and evidence processing.
- Forensic Fire Scene Examination – What it Tells Us, and What it Doesn't (http://www.ncids.com/forensic/arson/2013_Bieber_FireSceneExam.pdf), 4/15/2019
This article by Paul Bieber appeared in the 2013 CACJ publication. Bieber looks at the reliability of fire investigation and the validity of techniques including identification of the area or areas of origin.
- Forensic Investigation Techniques for Inspecting Electrical Conductors Involved in Fire (<https://forensicsresources.org/wp-content/uploads/2019/04/forensic-investigation-techniques-239052.pdf>), 4/12/2019
2012 DOJ publication by Richard J. Roby, Ph.D. and Jamie McAllister, Ph.D. that looks at the physical characteristics of energized and non-energized wires subjected to various types of fire exposures.
- Forensic Science Assessments: A Quality and Gap Analysis – Fire Investigation (<https://www.aaas.org/resources/fire-investigation>), 4/15/2019
The American Association for the Advancement of Science produced this July 2017 report that assesses what aspects of fire investigation are well founded and science and where gaps exist in knowledge. The full report is available for free download. A "plain language" summary is also available for download.
- Habeas Relief From Bad Science: Does Federal Habeas Corpus Provide Relief for Prisoners Possibly Convicted on Misunderstood Fire Science? (<https://scholarship.law.umn.edu/mjlst/vol10/iss1/10/>), 4/15/2019
by Marc Price Wolf, Minnesota Journal of Law, Science & Technology (2009). Describes the shift in

methodology and foundational principles that the field of fire investigation has undergone recently and discusses how habeas corpus relief can be utilized in arson cases.

- Measuring the Impact of Cognitive Bias in Fire Investigation

([http://thearsonproject.org/charm/wp-](http://thearsonproject.org/charm/wp-content/uploads/2013/12/Cognitive_Bias_ARP.pdf)

[content/uploads/2013/12/Cognitive_Bias_ARP.pdf](http://thearsonproject.org/charm/wp-content/uploads/2013/12/Cognitive_Bias_ARP.pdf)), 4/15/2019

This 2012 report by Paul Bieber of the Arson Research Project finds that cognitive bias is found in the field of fire investigation. Makes recommendations for how to minimize these biases.

- National Academy of Sciences Report

(<https://www.nap.edu/read/12589/chapter/7#170>), 4/15/2019

See pp. 170-173 for the National Research Counsel's assessment of the analysis of explosives evidence and fire debris

- NFPA 921: Guide for Fire and Explosion Investigations, 2017 ed.

(<https://catalog.nfpa.org/NFPA-921-Guide-for-Fire-and-Explosion-Investigations-P1386.aspx?icid=D531>), 4/15/2019

The National Fire Protection Association publishes this manual which is the standard of care in fire investigation. This guide can be viewed for free on the NFPA website which is an excellent way to become familiar with the standards; however, if you wish to download or print it, you must purchase a copy.

Email Sarah Rackley Olson if ...

- OSAC Registry Approved Standards (<https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry>), 9/2/2020, NIST

Organization of Scientific Area Committees for Forensic Evidence (OSAC) is developing documentary standards for each forensic discipline. Standards under consideration as well as approved standards are available in the OSAC Registry.

- Reducing Uncertainty of Quantifying the Burning Rate of Upholstered Furniture

(<https://www.ncjrs.gov/pdffiles1/nij/grants/239050.pdf>), 4/15/2019

2012 DOJ publication by Marc L. Janssens that investigates how to estimate the burning rate of upholstered furniture and how to express the uncertainty of this prediction.

- Scientific Protocols for Fire Investigation (<http://www.firescientist.com/>), 4/15/2019

2006 book by John Lentini on appropriate techniques for fire scene investigations and chemical analysis of fire debris. Highlights frequent errors in fire investigation, the history of fire investigation and how the profession has evolved.

- Spontaneous Ignition in Fire Investigation

(<https://www.ncjrs.gov/pdffiles1/nij/grants/239046.pdf>), 4/15/2019

2012 DOJ publication by James G. Quintiere, Justin T. Warden, Stephen M. Tamburello, and Thomas E.

Minnich that addresses the principles of spontaneous ignition and its potential role as the cause and origin of a fire.

- Thermal Properties Database (<https://www.ncjrs.gov/pdffiles1/nij/grants/239047.pdf>), 4/15/2019

2012 DOJ publication by Arnaud Trouve' and Thomas Minnich. This publication explains the Burning Item Database which describes the burning characteristics of common household and office items.

- Trial by Fire: Did Texas execute an innocent man?

(http://www.newyorker.com/reporting/2009/09/07/090907fa_fact_grann), 4/15/2019

This New Yorker article by David Grann provides an in depth investigation of the flaws in the Cameron Todd Willingham case.

- USFA Fire Burn Pattern Tests (<http://www.kennedy-fire.com/pdf/fire-patterns-persistence-2007.pdf>), 4/15/2019

This 1997 study by FEMA and the US Fire Administration found that ventilation and flashover may change or move patterns making correct interpretation of the pattern more difficult. Flashover was found in a majority of test fires and did obscure patterns including patterns from ignitable liquids.

Bite Mark

- Additional bite mark articles (<https://forensicresources.org/resources/additional-bite-mark-articles/>), 4/16/2019

The bibliographies (here and here) contain citations to published articles on bite mark analysis. If you need access to these articles, contact Sarah Rackley Olson.

- American Board of Forensic Odontology (ABFO) Reference Manual (<http://abfo.org/wp-content/uploads/2016/03/ABFO-Reference-Manual-03162016.pdf>), 4/16/2019

As of 2016, the ABFO Standards and Guidelines no longer permit conclusions of "exact match" or that a perpetrator made a mark without a doubt. This marks a significant change in the field. The strongest conclusion permissible now is that a person is "not excluded as having made the bitemark." See p. 94 and 102. ...

- Bitemark Analysis: A NIST Scientific Foundation Review (<https://www.nist.gov/spo/forensic-science-program/bitemark-analysis-nist-scientific-foundation-review>), 3/15/2023, NIST

The National Institute of Standards and Technology (NIST) has reviewed the scientific foundations of bitemark analysis, a forensic technique in which marks on the skin of a biting victim are compared with the teeth of a suspected biter and found that the field is not supported by sufficient data. NIST has published its findings in ...

- Cases Where DNA Revealed that Bite Mark Analysis Led to Wrongful Arrests and Convictions (<https://www.innocenceproject.org/cases-where-dna-revealed-that-bite-mark-analysis-led-to-wrongful-arrests-and-convictions/>), 4/16/2019

Article by the Innocence Project identifying concerns with bite mark analysis and discussing five cases where individuals were convicted based largely on bite mark analysis, only to be proven innocent through DNA years later.

- Criminal Law – Expert Testimony on Bite Marks

([https://scholarship.law.campbell.edu/cgi/viewcontent.cgi?](https://scholarship.law.campbell.edu/cgi/viewcontent.cgi?referer=http://www.ncids.com/forensic/bitemark/bitemark.shtml&httpsredir=1&article=1040&context=clr)

[referer=http://www.ncids.com/forensic/bitemark/bitemark.shtml&httpsredir=1&article=1040&context=clr](https://scholarship.law.campbell.edu/cgi/viewcontent.cgi?referer=http://www.ncids.com/forensic/bitemark/bitemark.shtml&httpsredir=1&article=1040&context=clr)). 1/1/1981

...
A law review article on *State v. Temple*, 302 N.C. 1 (1981) where the NC Supreme Court held that testimony regarding bite marks identification analysis is admissible as long as the trial court can verify the scientific methods used were accurate and reliable. Includes a summary of the case, background, and an analysis of the ...

- Digital Rectification and Resizing Correction of Photographic Bite Mark Evidence

(<https://archives.fbi.gov/archives/about-us/lab/forensic-science-communications/fsc/july2001/bowers.htm>), 7/16/2001

FBI report on bite mark photographic distortion and corrective measures, using a description of methods used in the analysis of bite mark evidence from a 1973 homicide case that was prosecuted in 2000.

- National Academy of Sciences Report

(<https://www.nap.edu/read/12589/chapter/7#173>), 4/16/2009

See pp. 173-176 for the National Research Council's evaluation of forensic odontology. The report finds "there is continuing dispute over the value and scientific validity of comparing and identifying bite marks." p. 173. The report lists the following concerns: "Bite marks on the skin will change over time"; Bite marks "can be distorted by the elasticity ...

- OSAC Registry Approved Standards (<https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry>), 9/2/2020, NIST

Organization of Scientific Area Committees for Forensic Evidence (OSAC) is developing documentary standards for each forensic discipline. Standards under consideration as well as approved standards are available in the OSAC Registry.

- PCAST Report

(https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_forensic_science_report_final.pdf), 9/1/2016

The 2016 President's Council of Advisors on Science and Technology Report concluded that "bitemark analysis does not meet scientific standards for foundational validity, and is far from meeting such standards. To the contrary, available scientific evidence strongly suggests that examiners cannot consistently agree on whether an injury is a human bitemark and cannot identify the ...

- The path forward on bite mark matching – and the rearview mirror

(<http://www.washingtonpost.com/news/the-watch/wp/2015/02/20/the-path-forward-on-bite-mark-matching-and-the-rearview-mirror/>), 2/1/2015

4-part Washington Post series on the flawed "science" of bite mark analysis

Blood and Bodily Fluids

- American Academy of Forensic Sciences Standards Board Documents

(<http://www.asbstandardsboard.org/published-documents/>), 8/18/2020

The AAES Standards Board develops documentary standards for forensics through a consensus process

the ASB Standards Board develops documentary standards for forensics through a consensus process, involving participation by all directly and materially affected persons. Standards are being developed for each forensic discipline. The standards that have been published are available on the ASB website.

- OSAC Registry Approved Standards (<https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry>), 9/2/2020, NIST

Organization of Scientific Area Committees for Forensic Evidence (OSAC) is developing documentary standards for each forensic discipline. Standards under consideration as well as approved standards are available in the OSAC Registry.

Child Abuse Allegations

- A biomechanical analysis of the causes of traumatic brain injury in infants and children (<https://www.ncbi.nlm.nih.gov/pubmed/15166757>), 4/16/2004

by W. Goldsmith and J. Plunkett, Am J Forensic Med Pathol. 2004 Jun; 25(2):89-100.

- Accidental Scald Burns in Sinks

(<https://pediatrics.aappublications.org/content/pediatrics/111/2/e191.full.pdf?ijkey=604c6e8c6ffdd04844fbbef177cd49824843cde7>), 4/16/2003

by M. Olivia Titus, Amy L. Baxter, and Suzanne P. Starling in Pediatrics 111(2):e191. (2003). This article evaluates accidental burn injuries similar to those found in inflicted injury and discusses information needed to distinguish the causes.

- American Professional Society on the Abuse of Children (APSAC) Practice Guidelines: Forensic Interviewing in Cases of Suspected Child Abuse (<https://depts.washington.edu/hcsats/PDF/guidelines/Forensic%20Interviewing%20in%20Cases%20of%20Suspected%20Child%20Abuse.pdf>), 7/1/2020

American Professional Society on the Abuse of Children. (2012). Practice guidelines: Forensic interviewing in cases of suspected child abuse. APSAC.

- Burn Injuries in Child Abuse (<https://www.ncjrs.gov/pdffiles/91190-6.pdf>), 6/1/2001

US DOJ publication that gives information used by law enforcement officers and medical professionals to distinguish intentional burns from accidental contact. It includes descriptions of injuries and interviewing questions.

- Can Children Be Useful Witnesses? It Depends How They Are Questioned (https://apps.weber.edu/wsuiimages/psychology/2015%20Brown_et_al-CDP%20Can%20Children%20Be%20Useful%20Witnesses.pdf), 7/1/2020

Brown, D., Lamb, M. (2015). Can children be useful witnesses? It depends how they are questioned. Child Development Perspectives.

- Childrens Allegations of Sexual Abuse in Criminal Trials: Assessing Defense Attacks on Credibility and Identifying Effective Prosecution Methods (<https://nij.ojp.gov/library/publications/childrens-allegations-sexual-abuse-criminal-trials-assessing-defense-attacks?>

Research Article Summary

utm_content=default&utm_medium=email&utm_source=govdelivery), 6/15/2020

Date: February 2020 Author: Stacia N. Stolzenberg Annotation: This study examined how attorneys establish and attack children's credibility in cases that involve alleged child sexual abuse (CSA), and assessed how attorneys phrased questions for such children, how children responded, and whether questioning practices were sensitive to the developmental level of the child.

- Evaluating Physical Abuse in Children

(<https://www.aafp.org/afp/2000/0515/p3057.html>), 4/16/2000

Provides general information about how law enforcement officers and medical professionals evaluate whether an injury, including fractures and burns, was intentional or accidental. It was published in 2000 in the American Family Physician.

- Examining Shaken Baby Syndrome Convictions in Light of New Medical Scientific Research (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2159707), 10/10/2012

Examines the controversy concerning Shaken Baby Syndrome and how emerging medical research is prompting the legal system to re-examine SBS convictions. Click on the link and then click Download This Paper at the top of the page to read the full article.

- Fatal pediatric head injuries caused by short-distance falls

(<https://www.ncbi.nlm.nih.gov/pubmed/11444653>), 4/16/2001

by J. Plunkett. Am J Forensic Med Pathol. 2001 Mar 22(1):1-12.

- Overcoming Defense Expert Testimony in Abusive Head Trauma Cases

(http://ndaa.org/wp-content/uploads/Abusive-HeadTrauma_NDAA-1.pdf), 4/16/2019

National Center for Prosecution of Child Abuse publication that provides information on how to rebut specific defense arguments.

- Portable Guides to Investigating Child Abuse

(<https://www.ojjdp.gov/publications/PubResults.asp?sei=35>), 4/16/2019

Office of Juvenile Justice and Delinquency Prevention publications that might be helpful in evaluating how a child abuse investigation was carried out.

- Recognizing When a Child's Injury or Illness Is Caused by Abuse

(<https://www.ojjdp.gov/pubs/243908.pdf>), 4/16/2014

US DOJ guide to conducting an investigation of child injuries.

- Rethinking Shaken Baby Syndrome

(<https://www.npr.org/2011/06/29/137471992/rethinking-shaken-baby-syndrome>), 6/29/2011

NPR investigative report from June 29, 2011 by Joseph Shapiro. Link contains audio and text.

- Science-Dependent Prosecution and the Problem of Epistemic Contingency: A Study of Shaken Baby Syndrome

(https://www.law.ua.edu/pubs/lrarticles/Volume%2062/Issue%203/TUERKHEIMER-Science-Dependent_Prosecution.pdf), 4/16/2011

Law review article by Deborah Tuerkheimer that describes the trajectory of Shaken Baby Syndrome in criminal courts and critiques how criminal justice evolves in the wake of scientific change.

- Sexually Transmitted Diseases and Child Sexual Abuse
(<https://www.ncjrs.gov/pdffiles/stdandab.pdf>), 12/1/2002
US DOJ guide on investigative techniques, using the presence of sexually transmitted disease, and identifying and eliminating suspects in sexual abuse cases.
- Shaken Baby Syndrome, Abusive Head Trauma, and Actual Innocence: Getting It Right
(https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2048374), 4/30/2012
Explains the history of the Shaken Baby Syndrome/Abusive Head Trauma diagnosis, discusses the ongoing debates around this diagnosis, reviews and critiques the scientific literature supporting the diagnosis, and discusses the appropriateness of testimony related to SBS/AHT under the Daubert standard. The full text article is available for free download by clicking the "download this paper" ...
- Shaken-Baby Syndrome Faces New Questions in Court
(https://www.nytimes.com/2011/02/06/magazine/06baby-t.html?_r=1&emc=eta1), 2/2/2011
by Emily Bazelon, New York Times Magazine
- State of Michigan Governor's Task Force on Child Abuse and Department of Health and Human Services: Forensic Interviewing Protocol
(https://www.michigan.gov/documents/dhs/DHS-PUB-0779_211637_7.pdf), 7/1/2020
State of Michigan Governor's Task Force on Child Abuse and Neglect and DHHS (2015). Forensic Interviewing Protocol (4th ed.)
- Structured forensic interview protocols improve the quality and informativeness of investigative interviews with children: A review of research using the NICHD Investigative Interview Protocol
(<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2180422/pdf/nihms35447.pdf>), 7/1/2020
Lamb, M., Orbach, Y., Hershkowitz, Esplin, P., Horowitz, I. (2007). A structured interview protocol improves the quality and informativeness of investigative interviews with children: A review of research using the NICHD investigative interview protocol. Child Abuse and Neglect. 31, 1201-1231.
- Sudden Unexplained Infant Death Investigation
(<https://www.cdc.gov/sids/trainingmaterial.htm>), 4/16/2019
Centers for Disease Control and Prevention guide that teaches techniques for investigating child deaths, including scene investigation, interview techniques, and reporting practices for investigators.
- Suggestibility of the Child Witness: A Historical Review and Synthesis
(<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.123.3489&rep=rep1&type=pdf>), 7/1/2020
Ceci, S., Bruck, M. (1993). The suggestibility of the child witness: a historical review and synthesis. Psychological Bulletin. 113, 403-439.
- The Child Cases (<https://www.pbs.org/wgbh/pages/frontline/the-child-cases/>), 4/16/2011
PBS Frontline, ProPublica and NPR investigation from June 28, 2011 on sudden child deaths and the scientific research that has shown that investigations have been mishandled by medical examiners and coroners. This

research that has shown that investigations have been mismanaged by medical examiners and coroners. This link contains a 30 minute documentary that can be watched online as well as articles and interviews on the topic

- The cutaneous manifestations and common mimickers of physical child abuse (<https://www.jpeds.org/article/S0891-5245%2803%2900294-3/abstract>), 4/16/2004
by Shawna S. Mudd and Jeanne S. Findlay, J Pediatr Health Care. (2004). 18,123-129. Contact Sarah Rackley Olson about how to view the full text of this article.
- Traumatic shaking: The role of the triad in medical investigations of suspected traumatic shaking (https://www.sbu.se/contentassets/09cc34e7666340a59137ba55d6c55bc9/traumatic_shaking_2016.pdf), 1/1/2016
Swedish Agency for Health Technology Assessment 2016 review of the available scientific evidence finding: There is limited scientific evidence that the triad and therefore its components can be associated with traumatic shaking (low quality evidence). There is insufficient scientific evidence on which to assess the diagnostic accuracy of the triad in identifying traumatic shaking (very ...

Crime Labs

- American Academy of Forensic Sciences Standards Board Documents (<http://www.asbstandardsboard.org/published-documents/>), 8/18/2020
The AAFS Standards Board develops documentary standards for forensics through a consensus process, involving participation by all directly and materially affected persons. Standards are being developed for each forensic discipline. The standards that have been published are available on the ASB website.
- An Independent Review of the SBI Forensic Laboratory (https://forensicresources.org/wp-content/uploads/2019/09/Swecker_Report.pdf), 3/1/2010
Chris Swecker and Michael Wolf were retained by the NC Attorney General's Office to conduct an independent review of the Forensic Biology Section of the SBI Crime Laboratory. The investigation began in March 2010 and focuses on policies, procedures and practices between 1987 and 2003. The Appendix to the report contains a list of affected ...
- In Glowing Colors: Seeing the Spread of Drug Particles in a Forensic Lab (<https://www.nist.gov/news-events/news/2020/04/glowing-colors-seeing-spread-drug-particles-forensic-lab>), 4/22/2020, NIST
- Ombudsman's Report (<https://www.ncdoj.gov/getdoc/da328def-dab5-4297-b85e-77bb490ca2cb/Report-of-the-Ombudsman.aspx>), 8/4/2011
Report submitted by Judge Vince Rozier during his time as Ombudsman to the SBI. The document includes a memo by Judge Joseph John responding to the recommendations of the Ombudsman. The report was released by the SBI in Aug. 2011.
- Report of the State Crime Lab Ombudsperson

(<https://ncdoj.gov/download/19/ombudsman/365985/2024-06-12-report-of-the-ombudsperson.pdf>), 6/24/2024

June 2024 Report of Susan Brooks

- Strategic Plan for Improving the Medical Examiner System

([https://forensicsresources.org/wp-](https://forensicsresources.org/wp-content/uploads/2019/05/MedicalExaminerStrategicPlan2001.pdf)

[content/uploads/2019/05/MedicalExaminerStrategicPlan2001.pdf](https://forensicsresources.org/wp-content/uploads/2019/05/MedicalExaminerStrategicPlan2001.pdf)), 10/10/2001

This 2001 report by the North Carolina Medical Examiner Study Group was requested by the legislature in part in response to a series of news articles that raised concerns about the quality of death investigation in North Carolina. The report provides information about the structure and responsibilities of the Medical Examiner system and makes a ...

Crime Scene Investigation

- American Academy of Forensic Sciences Standards Board Documents

(<http://www.asbstandardsboard.org/published-documents/>), 8/18/2020

The AAFS Standards Board develops documentary standards for forensics through a consensus process, involving participation by all directly and materially affected persons. Standards are being developed for each forensic discipline. The standards that have been published are available on the ASB website.

- Crime Scene Forensic Evidence Collection Guidelines For Defense Attorneys

(<https://www.nacdl.org/champion.aspx?id=22916>), 4/16/2011

by John Louis Larsen and Daniel K. Harris, The Champion (NACDL) 28-35 (October 2011). A guide for defense attorneys for assessing whether law enforcement followed standardized evidence processing and collection guidelines, as per those promulgated by the FBI and DOJ.

- Crime Scene Investigation: A Guide for Law Enforcement (2013)

(<https://www.nfstc.org/products/crime-scene-investigation-guide/>), 4/16/2013

Developed by the National Forensic Science Technology Center and is available for free download.

- Crime Scene Investigation: A Reference for Law Enforcement Training (2004)

(<https://www.ncjrs.gov/pdffiles1/nij/200160.pdf>), 4/16/2004

U.S. Department of Justice, National Institute of Justice. A guide designed to accompany the general crime scene guide. Provides step-by-step procedures for each phase of crime scene investigation. Provides more specific procedures than the general guide does for some topics.

- Death Investigation: A Guide for the Scene Investigator (2011)

(<https://www.ncjrs.gov/pdffiles1/nij/234457.pdf>), 4/16/2011

U.S. Department of Justice, National Institute of Justice. A best-practices guide for death scene investigators produced by the National Medicolegal Review Panel, an independent multidisciplinary group of both international and national organizations whose constituents are responsible for investigating death.

- Shooting-Incident Reconstruction Within a Room

([http://www.evidencemagazine.com/index.php?](http://www.evidencemagazine.com/index.php?option=com_content&task=view&id=326)

[option=com_content&task=view&id=326](http://www.evidencemagazine.com/index.php?option=com_content&task=view&id=326)), 4/16/2010

by John Louis Larsen, 8 Evidence Tech. Mag. 14-17 (July-August 2010). Provides protocols for documenting a

bullet-hole entry and for event reconstruction.

- The Biological Evidence Preservation Handbook: Best Practices for Evidence Handlers (<https://nvlpubs.nist.gov/nistpubs/ir/2013/NIST.IR.7928.pdf>), 4/16/2013
2013 NIST handbook offers guidance for individuals involved in the collection, examination, tracking, packaging, storing and disposition of biological evidence
- The Handbook of Forensic Services (revised 2013) (<https://www.fbi.gov/file-repository/handbook-of-forensic-services-pdf.pdf/view>), 4/16/2013
U.S. Department of Justice, FBI Laboratory Division. Provides guidance and procedures for methods of collecting, preserving, packaging, and shipping evidence and describes the forensic examinations performed by the FBI's Laboratory Division and Operational Technology Division.

Death Investigation

- A Fly for the Prosecution – How Insect Evidence Helps Solve Crimes (<https://archive.nytimes.com/www.nytimes.com/books/first/g/goff-fly.html>), 4/16/2000
Review of book by M. Lee Goff that uses case studies to explain the process by which different species of bugs break down decomposing bodies.
- A Guide for Manner of Death Classification (2002) (<https://netforum.avectra.com/public/temp/ClientImages/NAME/4bd6187f-d329-4948-84dd-3d6fe6b48f4d.pdf>), 4/16/2002
National Association of Medical Examiners. Drafted to improve uniformity in manner of death determinations for death certificates. View additional position papers and accreditation information on the NAME website.
- American Academy of Forensic Sciences Standards Board Documents (<http://www.asbstandardsboard.org/published-documents/>), 8/18/2020
The AAFS Standards Board develops documentary standards for forensics through a consensus process, involving participation by all directly and materially affected persons. Standards are being developed for each forensic discipline. The standards that have been published are available on the ASB website.
- Death Investigation: A Guide for the Scene Investigator (<https://www.ojp.gov/pdffiles1/nij/308955.pdf>), 7/23/2024, NIJ
Published by NIJ in 2024
- Death Investigation: A Guide for the Scene Investigator (2011) (<https://www.ncjrs.gov/pdffiles1/nij/234457.pdf>), 4/16/2011
U.S. Department of Justice, National Institute of Justice. A best-practices guide for death scene investigators produced by the National Medicolegal Review Panel, an independent multidisciplinary group of both international and national organizations whose constituents are responsible for investigating death.
- Drug-Induced Homicide Defense Toolkit (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3265510), 12/18/2019
The Health In Justice Action Lab of the Northeastern University School of Law has created a toolkit for attorneys defending death by distribution of drugs. This toolkit will be useful to defenders in handling charges

of this sort in NC, both for the old murder by distribution and the new death by distribution.

- Field Documentation of Unusual Post-Mortem Arthropod Activity on Human Remains (<https://academic.oup.com/jme/article-abstract/52/1/105/873303?redirectedFrom=fulltext>), 1/15/2015

- Medical Examiners' and Coroners' Handbook on Death Registration and Fetal Death Reporting (https://www.cdc.gov/nchs/data/misc/hb_me.pdf), 4/16/2003, Center for Disease Control

- National Academy of Sciences Report (<https://www.nap.edu/read/12589/chapter/11>), 4/16/2009

See pp. 241-268 for the National Research Council's assessment of the disciplines of forensic pathology and death investigation.

- OSAC Registry Approved Standards (<https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry>), 9/2/2020, NIST

Organization of Scientific Area Committees for Forensic Evidence (OSAC) is developing documentary standards for each forensic discipline. Standards under consideration as well as approved standards are available in the OSAC Registry.

- Post Mortem: Death Investigation in America (<https://www.propublica.org/series/post-mortem>), 4/16/2014

Investigative series compiled by Pro Publica, in partnership investigation with NPR and Frontline that looks at the nation's 2,300 coroner and medical examiner offices and reports on problems identified with the system.

- Strategic Plan for Improving the Medical Examiner System (<http://www.ncids.com/forensic/pathology/MedicalExaminerStrategicPlan2001.pdf>), 10/10/2001

2001 report by the North Carolina Medical Examiner Study Group was requested by the legislature in part in response to a series of news articles that raised concerns about the quality of death investigation in North Carolina. The report provides information about the structure and responsibilities of the Medical Examiner system and makes a number ...

- Strategic Plan for Improving the Medical Examiner System (<https://forensicsources.org/wp-content/uploads/2019/05/MedicalExaminerStrategicPlan2001.pdf>), 10/10/2001

This 2001 report by the North Carolina Medical Examiner Study Group was requested by the legislature in part in response to a series of news articles that raised concerns about the quality of death investigation in North Carolina. The report provides information about the structure and responsibilities of the Medical Examiner system and makes a ...

- The Handbook of Forensic Services (revised 2013) (<https://www.fbi.gov/file-repository/handbook-of-forensic-services-pdf.pdf/view>), 4/16/2013

U.S. Department of Justice, FBI Laboratory Division. Provides guidance and procedures for methods of collecting, preserving, packaging, and shipping evidence and describes the forensic examinations performed

Detection Dogs

- American Academy of Forensic Sciences Standards Board Documents (<http://www.asbstandardsboard.org/published-documents/>), 8/18/2020
The AAFS Standards Board develops documentary standards for forensics through a consensus process, involving participation by all directly and materially affected persons. Standards are being developed for each forensic discipline. The standards that have been published are available on the ASB website.
- Detector Dogs and Probable Cause (<http://law.bepress.com/cgi/viewcontent.cgi?article=5818&context=expresso>), 4/16/2006
Richard E. Myers II, 14 Geo. Mason L. Rev. 1 (2006) – argues that an alert by even a well-trained dog with an exceptional track record cannot by itself constitute probable cause to search. Includes a statistical analysis of the value of dog alerts and suggestions for improved use of detector dogs.
- General Guidelines for Training, Certification, and Documentation of Canine Detection Disciplines (http://www.asbstandardsboard.org/wp-content/uploads/2020/02/088_Std_e1.pdf), 2/28/2020
ANSI/ASB Standard 088, First Edition 2020
- Handler beliefs affect scent detection dog outcomes (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3078300/>), 4/16/2011
Lisa Lit et al, 14:3 Anim Cogn 387(2011) – researchers evaluated eighteen drug and/or explosive detection dog/handler teams to determine how human beliefs affect detector dog outcomes.
- OSAC Registry Approved Standards (<https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry>), 9/2/2020, NIST
Organization of Scientific Area Committees for Forensic Evidence (OSAC) is developing documentary standards for each forensic discipline. Standards under consideration as well as approved standards are available in the OSAC Registry.
- USDA National Detector Dog Manual (http://www.aphis.usda.gov/import_export/plants/manuals/ports/downloads/detector_dog.pdf), 4/16/2019
Guidelines for detector dog training, procedures, and care. Failure of a dog/handler team to implement these national-level guidelines may be a source of cross examination.

Digital Evidence

- A Forensic Without the Science: Face Recognition in U.S. Criminal Investigations (<https://www.law.georgetown.edu/privacy-technology-center/publications/a-forensic-without-the-science-face-recognition-in-u.s.-criminal-investigations/>), 4/16/2020

without-the-science-face-recognition-in-u-s-criminal-investigations/), 12/22/2022

NACDL Training and Resource Counsel Clare Garvie has authored a new report titled A Forensic Without the Science: Facial Recognition in U.S. Criminal Investigations. Designed as a resource for defense attorneys, advocates, and the public, it outlines how police face recognition searches are prone to error from underperforming algorithms, the lack of training and cognitive ...

- Are There Really Flaws in Cell Phone Location Evidence?

(<https://www.envistaforensics.com/blog/are-there-really-flaws-in-cell-phone-location-evidence/>), 10/23/2019

Blog post by Larry Daniel, Spencer McInville, and Eric Grabski addressing the potential for flaws in cell phone location evidence when mapping software is used and other issues with cell tower evidence.

- Digital Evidence in the Courtroom: A Guide For Law Enforcement and Prosecutors (<https://www.nij.gov/publications/pages/publication-detail.aspx?ncjnumber=211314>), 1/17/2007

This fourth in a series of guides on digital (computer-related) evidence is addressed to law enforcement officers and prosecutors, as it focuses on key issues in the collection, management, preparation, and courtroom presentation of digital evidence.

- Digital Evidence Subpoena Guide (https://forensicresources.org/wp-content/uploads/2019/04/Subpoena_Guide.doc), 4/17/2019

This guide contains addresses and phone/fax numbers for the legal departments/subpoena compliance centers of cellular providers and social media sites. Please be aware of 2014 Formal Ethics Opinion 7 when issuing subpoenas. John Rubin's 2017 blog post on subpoenaing-of-state materials is available here.

Email Sarah Rackley Olson if you have any corrections or updated information for the subpoena guide.

- Digital Forensics Resource Packet for Legal Professionals

(https://www.envistaforensics.com/media/2135/envista-digital-forensics_attorney-resource-packet.pdf), 2/19/2021, Envista Forensics

This resource contains sample subpoena and evidence preservation language for various types of digital evidence.

- Digital Investigation Techniques: A NIST Scientific Foundation Review

(<https://www.nist.gov/spo/forensic-science-program/digital-investigation-techniques-nist-scientific-foundation-review>), 12/22/2022, NIST

Nov. 2022 report

- Forensic Examination of Digital Evidence: A Guide for Law Enforcement

(<https://www.nij.gov/publications/pages/publication-detail.aspx?ncjnumber=199408>), 4/17/2004

National Institute of Justice's recommendations for how law enforcement and crime scene investigators should handle digital evidence. Evidence on cell phones or computers can be changed or destroyed if proper

techniques are not used to forensically analyze the data. This guide may be used to cross examine law enforcement officers who did not follow the ...

- Geofence Warrant Primer (<https://www.nacdl.org/getattachment/816437c7-8943-425c-9b3b-4faf7da24bba/nacdl-geofence-primer.pdf>), 6/6/2022, NACDL

5-page primer from NACDL's Fourth Amendment Center that prepares attorneys to litigate a motion to suppress a geofence warrant.

- Getting Facebook into Evidence (https://forensicsresources.org/wp-content/uploads/2019/04/Daniel_Getting_Facebook_into_Evidence.pdf), 4/17/2019
This guide, prepared by Larry Daniel, provides information on the collection, preservation, and authentication of Facebook evidence from a digital forensics perspective.
- Guide to Child Pornography Cases (https://forensicsresources.org/wp-content/uploads/2019/04/Daniel_Guide_for_Child_Porn_Cases.pdf), 4/17/2019
Larry Daniel addresses common issues with child pornography cases in this guide. Topics include what information an expert will need and what services an expert may be able to provide. Daniel provides an explanation of technical terms commonly used in these cases.
- Guidelines on Mobile Device Forensics
(<https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-101r1.pdf>), 5/1/2014
NIST has published these guidelines that establishes methods for preserving and processing digital information on mobile devices.
- National Academy of Sciences Report
(<https://www.nap.edu/read/12589/chapter/7#179>), 4/17/2009
See pp. 179-182 for the National Research Counsel's evaluation of Digital and Multimedia Analysis.
- NIJ Digital Evidence Policies and Procedures Manual
(<https://www.ncjrs.gov/pdffiles1/nij/254661.pdf>), 5/27/2020, FTCOE
The National Institute of Justice's (NIJ) Forensic Technology Center of Excellence published a Digital Evidence Policies and Procedures Manual to be used as a guide for law enforcement agencies in developing manuals of their own. The manual contains procedures for handling and retaining digital evidence, information about what should be documented in lab reports, and ...
- OSAC Registry Approved Standards (<https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry>), 9/2/2020, NIST
Organization of Scientific Area Committees for Forensic Evidence (OSAC) is developing documentary standards for each forensic discipline. Standards under consideration as well as approved standards are available in the OSAC Registry.
- Preparing Testimony about Cellebrite UFED in a Daubert or Frye Hearing
(<https://forensicsresources.org/wp-content/uploads/2020/04/CellebritePreparingtoTestifyArticle.pdf>), 4/22/2020, Cellebrite
This manual is designed to help attorneys prepare themselves and their witnesses for Daubert or related challenges to the admissibility of Cellebrite UFED-extracted mobile device evidence. It contains sample voir dire questions.
- Retention Periods of Major Cellular Service Providers (<https://www.aclu.org/cell-phone-location-tracking-request-response-cell-phone-company-data-retention-chart>), 4/17/2019
The Computer Crime and Intellectual Property Section of the U.S. Department of Justice gathered information

about the retention periods for call details, cell tower information, text message content, pictures, and other types of data. This information has been posted online by the ACLU.

- Social Media Law Enforcement Guides (<https://www.eff.org/foia/social-network-monitoring>), 4/17/2019

The Electronic Frontier Foundation received a number of guides regarding information that is maintained by various social networking sites and how to request that information. The guides are posted on their website, under the "documents" tab, scroll down to Social Media Law Enforcement Guides.

- The Limitations and Admissibility of Using Historical Cellular Site Data to Track the Location of a Cellular Phone (<https://scholarship.richmond.edu/cgi/viewcontent.cgi?article=1354&context=jolt>), 6/1/2013

by Aaron Blank, XVIII RICH. J.L. & TECH. 3 (2011). Discusses how a cellular network works, how a cell phone tracks its location, limitations on cell site data as a tracking method, admissibility of cell site data, and constitutional implications for seizure of cell site data. Provides practical suggestions concerning admission and exclusion of this ...

DNA

- A Review of Legislation Associated with Lawfully-Owed DNA Samples (https://forensiccoe.org/report-2022-lawfully-owed-dna/?mc_cid=1d3da688e3&mc_eid=0d120a19ed), 11/7/2022, FTCOE

Convicted offender DNA sample collection laws vary in each state in terms of what type of offense obligates an offender to provide a sample, whether a conviction should be the trigger for sample collection, and which agency is responsible for collecting the sample. Because of this interstate variability, the effectiveness of DNA sample collection laws ...

- American Academy of Forensic Sciences Standards Board Documents (<http://www.asbstandardsboard.org/published-documents/>), 8/18/2020

The AAFS Standards Board develops documentary standards for forensics through a consensus process, involving participation by all directly and materially affected persons. Standards are being developed for each forensic discipline. The standards that have been published are available on the ASB website.

- American Bar Association Standards on DNA Evidence (2018) (https://www.americanbar.org/groups/criminal_justice/publications/criminal_justice_section_archive/crimjust_standards_dnaevidence/), 12/16/2018

Standards and best practices for the collection, preservation, and testing of DNA evidence and for its use at trial.

- Application of Low Copy Number DNA Profiling (<http://www.cmj.hr/2001/42/3/11387628.pdf>), 1/1/2001

Article by Peter Gill, Croatian Medical Journal (2001). Describes considerations that must be taken into account with Low Copy number (LCN) DNA, including allele dropout and the possibility of contamination. Low

Copy number DNA analysis allows a DNA profile to be obtained from just a few cells.

- Communicating Statistical DNA Evidence (http://library.mpib-berlin.mpg.de/ft/sl/SL_Communicating_2003.pdf), 1/1/2003
by Samuel Lindsey et al. Jurimetrics 43 (2003). This article presents what DNA analyses can and cannot reveal and a way to improve judges' and jurors' understanding of evidence involving probabilities and statistics.
- DNA Audit Summary (<https://www.ncdoj.gov/About-DOJ/Crime-Lab/Crime-Laboratory-Documentation.aspx>), 4/16/2019
The NC State Crime Laboratory has posted its DNA Section Audit Reports (1999-2018). If you would like a summary of these audits, with issues that may be relevant to casework highlighted, email Sarah Rackley Olson.
- DNA for the Defense Bar (<https://www.nij.gov/publications/pages/publication-detail.aspx?ncjnumber=237975>), 4/16/2012
This manual was written by a group of experienced defense attorneys and DNA experts. Its approach to basic and advanced topics is easy to understand. In addition to explaining the science and techniques of DNA analysis, the manual offers advice on topics such as opening and closing statements, jury selection, and cross examination.
- DNA Mixture Interpretation: A NIST Scientific Foundation Review (https://forensicresources.org/wp-content/uploads/2021/08/NISTIR_8351-draft_Executive_Summary.pdf), 8/5/2021
By: John M. Butler, Hari Iyer, Rich Press, Melissa K. Taylor, Peter M. Vallone, & Sheila Willis
- DNA Mixtures: A Forensic Science Explainer (<https://www.nist.gov/featured-stories/dna-mixtures-forensic-science-explainer>), 4/4/2019
NIST created this document to explain why DNA mixture interpretation can be so complex and to explain how likelihood ratios and probabilistic genotyping software can assist with interpreting complex mixtures.
- Fallible DNA evidence can mean prison or freedom (<https://www.newscientist.com/article/mg20727733-500-fallible-dna-evidence-can-mean-prison-or-freedom/>), 8/11/2010
by Linda Geddes, New Scientist, August 11, 2010 – gives an explanation of how subjectivity and bias affect DNA analysis. Discusses issues such as partial profiles, allelic drop-out and drop-in, mixtures, and thresholds for analysis.
- Forensic DNA Analysis: A Primer for Courts (<https://royalsociety.org/~media/about-us/programmes/science-and-law/royal-society-forensic-dna-analysis-primer-for-courts.pdf>), 11/1/2017
In Nov. 2017, the Royal Society published this primer to assist the UK judiciary when handling DNA and serology evidence in the courtroom. The primer provides a good introduction to forensic DNA analysis, including a description of different types of DNA mixture interpretation software.
- Forensic DNA Interpretation and Human Factors: Improving the Practice Through a Systems Approach (<https://www.nist.gov/publications/forensic-dna-interpretation-and-human-factors-improving-practice-through-systems>), 5/6/2024, NIST

Report published by NIST in 2024

- Forensic DNA Statistics: Still Controversial In Some Cases

(<https://www.nacdl.org/Champion.aspx?id=26356>), 12/1/2012

by William C. Thompson, Laurence D. Mueller, and Dan E. Krane. *The Champion*, Dec. 2012. A must-read article for attorneys dealing with cases with DNA evidence. The authors show how subjectivity and bias may play a role in DNA analysis, particularly in cases involving very small amounts of DNA, partial profiles, or mixtures.

- Forensic Trace DNA: A Review

(<https://investigativegenetics.biomedcentral.com/track/pdf/10.1186/2041-2223-1-14>), 1/1/2010

by Roland AH van Oorschot et al. *Investigative Genetics* (2010). In a very accessible way, this article describes issues associated with what is often called “touch DNA.” Topics covered include evidence collection, DNA extraction, amplification, profiling and interpretation of trace DNA samples.

- Law Enforcement Use of Probabilistic Genotyping, Forensic DNA Phenotyping, and Forensic Investigative Genetic Genealogy Technologies
(<https://nap.nationalacademies.org/catalog/27812/law-enforcement-use-of-probabilistic-genotyping-forensic-dna-phenotyping-and-forensic-investigative-genetic-genealogy-technologies>), 6/21/2024, National Academies of Science

Proceedings of a 2024 National Academies of Sciences Workshop – In Brief

- Making Sense of Forensic Genetics (<http://senseaboutscience.org/wp-content/uploads/2017/01/making-sense-of-forensic-genetics.pdf>), 4/16/2017

This 2017 guide presents information about DNA forensics in a way that is accessible to both a general audience and legal professionals. It focuses on topics such as the context in which DNA evidence is discovered, DNA databases, statistics, and use of DNA to predict appearance or ancestry.

- National Academy of Sciences Report

(<https://www.nap.edu/read/12589/chapter/7#128>), 4/16/2009

See pp. 128-133 for the National Research Counsel’s description of the forensic use of Deoxyribonucleic acid

- NIST Publishes Review of DNA Mixture Interpretation Methods

(<https://www.nist.gov/news-events/news/2021/06/nist-publishes-review-dna-mixture-interpretation-methods>), 6/9/2021, NIST

The National Institute of Standards and Technology (NIST) published a draft report, *DNA Mixture Interpretation: A Scientific Foundation Review*, which reviews the methods forensic laboratories use to interpret evidence containing a mixture of DNA from two or more people.

- NIST Research Enables Enhanced DNA “Fingerprints” (<https://www.nist.gov/news-events/news/2016/12/nist-research-enables-enhanced-dna-fingerprints>), 12/15/2016

Starting Jan. 1, 2017, forensic labs that participate in the FBI’s National DNA Index System (NDIS) increased the number of genetic markers analyzed from 13 to 20. Analyzing an increased number of genetic markers will make the DNA profiles more compatible with international DNA searches and will decrease the likelihood of a random match of ...

- No Longer the Gold Standard: Probabilistic Genotyping is Changing the Nature of DNA

no longer the gold standard. Forensic genotyping is changing the nature of DNA Evidence in Criminal Trials (<https://scholarship.law.berkeley.edu/bjcl/vol24/iss1/4/>), 6/26/2019

Author: Bess Stiffelman Esq.

- OSAC Registry Approved Standards (<https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry>), 9/2/2020, NIST
Organization of Scientific Area Committees for Forensic Evidence (OSAC) is developing documentary standards for each forensic discipline. Standards under consideration as well as approved standards are available in the OSAC Registry.
- Procedure for Analysis Interpretation of STR DNA Profiles (<https://forensicresources.org/wp-content/uploads/2021/08/Procedure-for-Analysis-Interpretation-of-STR-DNA-Profiles-07-01-2020withDRF4-02-16-2021-1.pdf>), 8/5/2021
NC State Crime Lab
- SDPD Crime Laboratory – Forensic Biology Unit, Validation of the STRmix™ Software MCMC Markov Chain Monte Carlo (https://forensicresources.org/wp-content/uploads/2021/08/strmix-mcmc_SDPD.pdf), 8/5/2021
- The Potential for Error in Forensic DNA Testing (and How That Complicates the Use of DNA Databases for Criminal Identification (<http://www.councilforresponsiblegenetics.org/GeneWatch/GeneWatchPage.aspx?pagelid=57>), 1/1/2008
by William C. Thompson, for the Council for Responsible Genetics (2008) – discusses how false incriminations can occur in forensic DNA testing, including coincidental DNA profile matches, accidental transfer of DNA, errors in labeling of samples, and misinterpretation of test results.
- Weak DNA evidence could undermine justice, experts say (<https://www.chicagotribune.com/news/ct-xpm-2012-07-05-ct-met-dna-questions-20120705-story.html>), 7/12/2015
Chicago Tribune article uses a case example to demonstrate the dangers of using DNA evidence that has very little probative value. New technology is allowing DNA analysis to be performed on very small amounts of DNA which may generate incomplete genetic profiles that may or may not be meaningful in a case.

Drug Analysis

- Drug-Induced Homicide Defense Toolkit (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3265510), 12/18/2019
The Health In Justice Action Lab of the Northeastern University School of Law has created a toolkit for attorneys defending death by distribution of drugs. This toolkit will be useful to defenders in handling charges of this sort in NC, both for the old murder by distribution and the new death by distribution.
- Guilty Until Proven Innocent: Field Drug Tests and Wrongful Convictions

(<https://www.law.upenn.edu/institutes/quattronecenter/reports/field-drug-test-study/>), 1/10/2024

This report by the Penn Carey Law Quattrone Center provides the first-ever comprehensive analysis of presumptive drug field test usage across law enforcement agencies in the United States. Inexpensive and fast, these tests have become a tool of choice for law enforcement agencies. Unfortunately, they are notoriously imprecise and are known to produce “false positives,” ...

- In Glowing Colors: Seeing the Spread of Drug Particles in a Forensic Lab (<https://www.nist.gov/news-events/news/2020/04/glowing-colors-seeing-spread-drug-particles-forensic-lab>), 4/22/2020, NIST
- National Academy of Sciences Report (<https://www.nap.edu/read/12589/chapter/7#133>), 1/1/2009
See pp. 133-136 for the National Research Counsel’s assessment of the analysis of controlled substances.
- OSAC Registry Approved Standards (<https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry>), 9/2/2020, NIST
Organization of Scientific Area Committees for Forensic Evidence (OSAC) is developing documentary standards for each forensic discipline. Standards under consideration as well as approved standards are available in the OSAC Registry.

Drug Recognition Experts

- A placebo-controlled study to assess Standardized Field Sobriety Tests performance during alcohol and cannabis intoxication in heavy cannabis users and accuracy of point of collection testing devices for detecting THC in oral fluid (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3456923/>), 10/1/2012
Psychopharmacology (Berl). 2012 October; 223(4): 439-446. This study finds that Standardized Field Sobriety Tests are only mildly sensitive to impairment from cannabis in heavy users. THC produced impairment on SFST performance in 30-50% of participants.
- Do Delta9-Tetrahydrocannabinol Concentrations Indicate Recent Use in Chronic Cannabis Users? (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2784185/>), 12/1/2009
Addiction. 2009 December; 104(12):2040-2048. This study finds that THC concentrations persist in whole blood multiple days after drug discontinuation in heavy chronic cannabis users.
- Marijuana-Impaired Driving A Report to Congress (<https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812440-marijuana-impaired-driving-report-to-congress.pdf>), 7/4/2017, NHTSA

July 2017 NHTSA report – The report describes the absorption, distribution and elimination of delta-9-tetrahydrocannabinol (THC) the primary psychoactive substance in marijuana, in the body. It contrasts this process with the absorption, distribution and elimination of alcohol in the body, as they are very different processes. The poor correlation of THC concentrations in the blood ...
- NC DHHS Drug Evaluation & Classification Program

North Carolina Drug Evaluation & Classification Program

([https://publichealth.nc.gov/chronicdiseaseandinjury/fta/pdf/DRE-Requirements\(rev2018\).pdf](https://publichealth.nc.gov/chronicdiseaseandinjury/fta/pdf/DRE-Requirements(rev2018).pdf)), 1/1/2018

Contains information about requirements for DRE certification and the DRE protocol for North Carolina.

- Priorities and Strategies for Improving the Investigation, Use of Toxicology Results, and Prosecution of Drug-Impaired Driving Cases

(<https://one.nhtsa.gov/people/injury/research/PrioritiesStarteg/index.htm>), 1/1/2004

2004 National Highway Traffic Safety Administration (NHTSA) publication targeted to prosecutors. The first section details some of the major problems with prosecuting drug impaired driving cases, such as the lack of any clear correlation between blood drug concentrations and impairment for many drugs (p. 8).

Eyewitness ID

- DOJ Memorandum – Eyewitness Identification: Procedures for Conducting Photo Arrays (<https://www.justice.gov/file/923201/download>), 1/1/2014

2017 memo from the US DOJ which endorses the 2014 NAS Report, Identifying the Culprit: Assessing Eyewitness Identification, stating: “The heads of the Department’s law enforcement components should review these procedures and, to the extent necessary, update their own internal policies to ensure that they are consistent with the procedures described in this document. In ...

- Eyewitness Evidence A Guide for Law Enforcement (<https://www.ncjrs.gov/pdffiles1/nij/178240.pdf>), 10/1/1999

1999 US DOJ guide developed by the Technical Working Group for Eyewitness Evidence. Law enforcement should be aware of these best practices.

- Identifying the Culprit Assessing Eyewitness Identification (2014) (https://www.nap.edu/catalog/18891/identifying-the-culprit-assessing-eyewitness-identification?utm_expId=4418042-5.krRTDpXJQISoXLpdo-1Ynw.0&utm_referrer=http%3A%2F%2Fnap.edu%2F), 10/1/2014

The National Academy of Sciences issued a landmark report evaluating the scientific research on memory and eyewitness identification in October 2014. The report provides recommendations for improving police identification procedures and for how courts should handle eyewitness evidence. The report is available for purchase or free download.

- Procedures for Challenging Eyewitness Identification Evidence (<https://defendermanuals.sog.unc.edu/race/3-eyewitness-identifications>), 4/22/2019

Attorneys considering challenging eyewitness identification should consult Chapter 3 of Alyson A. Grine & Emily Coward, Raising Issues of Race in North Carolina Criminal Cases. The chapter provides detailed

information on motions to suppress, voir dire of witnesses, jury voir dire, working with experts, cross-examination, and other topics.

- Reevaluating Lineups: Why Witnesses Make Mistakes (<https://www.innocenceproject.org/reevaluating-lineups-why-witnesses-make-mistakes->

and-how-to-reduce-the-chance-of-a-misidentification/), 4/22/2019

Innocence Project report showing that misidentification causes more wrongful convictions than any other factor. Misidentifications contributed to wrongful convictions of more than 75% of the over 230 people exonerated through post-conviction DNA testing.

- Technical Working Group for Eyewitness Evidence
(https://www.ncjrs.gov/nij/eyewitness/tech_working_group.html), 4/22/2019
- The Relationship Between Eyewitness Confidence and Identification Accuracy: A New Synthesis
(<https://journals.sagepub.com/stoken/default+domain/2X3HtwVgmHH7cCakgVgq/full>), 3/1/2017

John T. Wixted and Gary L. Wells published this article in Mar. 2017 finding that eyewitness confidence and accuracy are strongly related in pristine lineup conditions. Where lineup conditions are non-pristine, accuracy of even a high confidence suspect ID is seriously compromised. Pristine line-up procedures include using only one suspect per lineup; the suspect should ...

Fingerprints

- American Academy of Forensic Sciences Standards Board Documents
(<http://www.asbstandardsboard.org/published-documents/>), 8/18/2020
The AAFS Standards Board develops documentary standards for forensics through a consensus process, involving participation by all directly and materially affected persons. Standards are being developed for each forensic discipline. The standards that have been published are available on the ASB website.
- Approved ULTR for the Forensic Latent Print Discipline
(<https://www.justice.gov/olp/page/file/1284786/download>), 6/19/2020, USDOJ
Effective Aug. 15, 2020 In the fingerprint Uniform Language for Testimony and Reports (ULTR), the new guidance for Department of Justice fingerprint examiners includes: [A]n examiner shall not: assert that a 'source identification' or a 'source exclusion' conclusion is based on the 'uniqueness' of an item of evidence. use the terms 'individualize' or 'individualization' when ...
- Forensic Science Assessments: A Quality and Gap Analysis – Latent Fingerprint Examination (https://mcmprodaaas.s3.amazonaws.com/s3fs-public/reports/Latent%20Fingerprint%20Report%20FINAL%209_14.pdf?i9xGS_EyMHnIPLG6INIUYzb66L5cLdlb), 9/15/2017
The 2017 American Association for the Advancement of Science (AAAS) Forensic Science Assessments: A Quality and Gap Analysis – Latent Fingerprint Examination found that while latent fingerprint examiners can successfully rule out most of the population from being the source of a latent fingerprint based on observed features, insufficient data exist to determine how unique fingerprint features ...
- Inspector General's Report on the FBI Mayfield Error
(<https://oig.justice.gov/special/s0601/final.pdf>), 3/1/2006

A review of the FBI's handling of the Brandon Mayfield case (March 2006). The Office of the Inspector General focuses on the causes of the fingerprint misidentification in the Mayfield case and proposes possible solutions to prevent future fingerprint analysis errors. The enormous size of the IAFIS database and the power of the IAFIS program ...

- National Academy of Sciences Report

(<https://www.nap.edu/read/12589/chapter/7#136>), 1/1/2009

See pp. 136-150 for the National Research Council's assessment of the discipline of fingerprint analysis. The 2009 NAS Report cited "a thorough analysis of the ACE-V method" that concluded: "We have reviewed available scientific evidence of the validity of the ACE-V method and found none." pp. 142-143 (citation omitted).

- NIJ Fingerprint Sourcebook (<https://www.ncjrs.gov/pdffiles1/nij/225320.pdf>), 1/1/2015

This National Institute of Justice publication was prepared by SWGFAST in 2011. All 15 chapters are available for free online. This publication sets standards for fingerprint identification and addresses issues such as bias and reliability of the technique

- OSAC Registry Approved Standards (<https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry>), 9/2/2020, NIST

Organization of Scientific Area Committees for Forensic Evidence (OSAC) is developing documentary standards for each forensic discipline. Standards under consideration as well as approved standards are available in the OSAC Registry.

- OSAC's Friction Ridge Subcommittee Develops Friction Ridge Process Map

(<https://www.nist.gov/news-events/news/2019/12/osacs-friction-ridge-subcommittee-develops-friction-ridge-process-map>), 12/12/2019, NIST

The Organization of Scientific Area Committees (OSAC) for Forensic Science's Friction Ridge Subcommittee has developed a friction ridge examination process map that describes the conventional process for latent print examination. The process map identifies key decision points in the fingerprint examination process, enables laboratory managers to better understand how their protocols compare with those of other laboratories, ...

- PCAST Report

(https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_forensic_science_report_final.pdf), 9/1/2016

The 2016 President's Council of Advisors on Science and Technology Report found that latent fingerprint analysis is a foundationally valid subjective methodology, but with a false positive rate that is substantial and is likely to be higher than expected by many jurors based on longstanding claims about the infallibility of fingerprint analysis. Conclusions of a ...

- Review of the FBI's Progress Responding to the Recommendations from the Mayfield Case (https://forensicresources.org/wp-content/uploads/2019/05/2019-05-28_OIG-Mayfield-Case-Review.pdf), 6/1/2011

Five years after issuing recommendations regarding the fingerprint misidentification in the Mayfield case (March 2006), this report by the Office of the Inspector General examines the FBI's progress implementing the recommendations. ...the FBI Laboratory has adopted other measures intended to reduce the risk that an examiner's 'gut' reaction might lead to an incorrect conclusion, including ...

Firearms

- Approved ULTR for the Forensic Firearms/Toolmarks Discipline – Pattern Match (<https://www.justice.gov/olp/page/file/1284766/download>), 6/20/2020, USDOJ
Effective Aug. 15, 2020 In the firearm/toolmark pattern match Uniform Language for Testimony and Reports (ULTR), the new guidance for Department of Justice firearm examiners includes: [A]n examiner shall not: assert that a ‘source identification’ or a ‘source exclusion’ conclusion is based on the ‘uniqueness’ of an item of evidence. use the terms ‘individualize’ or ...
- Ballistic Imaging (<https://www.nap.edu/download/12162>), 1/1/2008
The National Academies Press, 2008. Provides information about the range of acceptable conclusions in this field, as well as the lack of error rate and subjectivity of the comparison techniques.
- May 6, 2013 DOJ Letter (<https://forensicresources.org/wp-content/uploads/2019/04/DOJ-Letter-Manning-ballistics.pdf>), 5/6/2013
Letter from the DOJ regarding the results of a US DOJ and FBI review of lab reports and testimony of FBI lab examiners in the Willie Manning case finds that testimony stating that a specific gun fired a specific bullet “to the exclusion of all other guns in the world” is not scientifically supported.
- National Academy of Sciences Report (<https://www.nap.edu/read/12589/chapter/7#150>), 1/1/2009
See pp. 150-155 for the National Research Counsel’s assessment of the discipline of Toolmark and Firearms Identification.
- PCAST Report (https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_forensic_science_report_final.pdf), 1/1/2016
The 2016 PCAST Report found that “firearms analysis currently falls short of the criteria for foundational validity, because there is only a single appropriately designed study to measure validity and estimate reliability. The scientific criteria for foundational validity require more than one such study, to demonstrate reproducibility. Whether firearms analysis should be deemed admissible based on ...
- Statement of the TX Forensic Science Commission Regarding “Alternate Firearms Opinion Terminology” (<https://www.txcourts.gov/media/1453352/tfsc-statement-re-firearms-terminology-document.pdf>), 1/5/2022, Texas Forensic Science Commission
Dec. 2021 statement Addressing a USDOJ document that instructs firearm examiners to avoid using terminology such as the weapon “could have fired” the bullets or cartridge cases, “consistent with” or “could not be excluded” as having fired the bullets or cartridge cases.
- Toolmark-Comparison Testimony: A Report to the Texas Forensic Science Commission (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4108012&mc_cid=e6bd1fac88&mc_eid=0d120a19ed), 5/18/2022
To assist the Texas Forensic Science Commission in a pending review of traditional toolmark-comparison testimony, the Yale Law School Forensic Science Standards Practicum submitted this report on the range of approaches that courts, legal commentators, and scientists have proposed for presenting toolmark-comparison evidence in trial settings. The report addresses four major topics: (1) the case

Forensic/Sexual Assault Exams

- Considerations for Photographic Documentation in Sexual Assault Cases
(<https://forensiccoe.org/private/65e8cfe5855e1>), 8/22/2022, FTCOE
Guidance document published in Aug. 2022.
- National Protocol for Sexual Abuse Medical Forensic Examinations – Pediatric
(<https://www.justice.gov/ovw/file/846856/download>), 4/1/2016
April 2016 U.S. Department of Justice protocol for medical forensic examinations of children. See requirements for documentation and photography. For the interview portion of the investigation, attorneys should be aware of the National Institute of Child Health and Human Development (NICHD) Investigative Interview Protocol.
- National Protocol for Sexual Assault Medical Forensic Examinations
(<https://www.ncjrs.gov/pdffiles1/ovw/241903.pdf>), 4/1/2013
U.S. Department of Justice protocol focusing on the immediate response of medical and other professionals in reference to medical treatment and evidence gathering from sexual assault or abuse victims. It addresses the role of advocates, law enforcement, prosecutors, and other responders in the medical forensic exam process.
- National Training Standards for Sexual Assault Medical Forensic Examiners
(<https://www.ncjrs.gov/pdffiles1/ovw/213827.pdf>), 1/1/2006
2006 DOJ manual sets out standards for the specialized education of sexual assault forensic examiners.

Foundations of Forensics

- American Academy of Forensic Sciences Standards Board Documents
(<http://www.asbstandardsboard.org/published-documents/>), 8/18/2020
The AAFS Standards Board develops documentary standards for forensics through a consensus process, involving participation by all directly and materially affected persons. Standards are being developed for each forensic discipline. The standards that have been published are available on the ASB website.
- American Academy of Forensic Sciences, Journal of Forensic Sciences, Vol. 45-56 (2000-2011). (<https://forensicresources.org/resources/american-academy-of-forensic-sciences-journal-of-forensic-sciences-vol-45-56-2000-2011/>), 4/26/2019
- An Independent Review of the SBI Forensic Laboratory
(https://forensicresources.org/wp-content/uploads/2019/09/Swecker_Report.pdf), 3/1/2010
Chris Swecker and Michael Wolf were retained by the NC Attorney General's Office to conduct an

independent review of the Forensic Biology Section of the SBI Crime Laboratory. The investigation began in March 2010 and focuses on policies, procedures and practices between 1987 and 2003. The Appendix to the report contains a list of affected ...

- Forensic Crime Labs: Scrutinizing Results, Audits and Accreditation

(<https://www.nacdl.org/Champion.aspx?id=14480>), 1/1/2004

by Frederic Whitehurst, 2004. This 2-part article provides a checklist of items to request in discovery from a forensic lab and explains the significance of each item. NACDL membership is required to access these articles.

- Forensic Handwriting Examination and Human Factors: Improving the Practice Through a Systems Approach (<https://nvlpubs.nist.gov/nistpubs/ir/2020/NIST.IR.8282.pdf>), 2/19/2020, NIST

NIST convened the Expert Working Group for Human Factors in Handwriting Examination to recommend ways to improve the practice and reduce the likelihood of errors. The Group's report discusses human factors as they relate to all aspects of handwriting examination, including communicating conclusions through reports and testimony. The report also discusses education, training, certification, and ...

- Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods

(https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_forensic_science_report_final.pdf), 9/1/2016

The President's Council of Advisors on Science and Technology issued a report (known as the PCAST report) in September 2016. This report assesses the scientific validity and reliability of some important forms of forensic evidence and of testimony. In Jan. 2017, PCAST published an addendum to their report which is available [here](#).

- Forensic Science: Why No Research? (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1924429), 9/10/2011

by Paul C. Giannelli. This paper addresses the scientific, law enforcement and legal reasons for a lack of research across many forensic disciplines from a historical perspective as well as in light of the National Academy of Sciences' report. Click on "one-click download" to view the full text article.

- Invalid Forensic Science Testimony and Wrongful Convictions

(<http://www.virginialawreview.org/sites/virginialawreview.org/files/1-2.pdf>), 5/1/2009

by Brandon Garrett and Peter Neufeld, Virginia Law Review, Vol. 95, No. 1 (2009) – a study of the forensic science testimony by prosecution experts in the trials persons later exonerated by post-conviction DNA testing.

- Jan. 13, 2021 Statement of US Department of Justice on the PCAST Report

(<https://www.justice.gov/olp/page/file/1352496/download>), 1/13/2021, USDOJ

The US DOJ published a statement on the Sept. 2016 President's Council of Advisors on Science and Technology (PCAST) Report, Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods. The DOJ explains its disagreements with the 2016 report in the statement. In summary, the DOJ's position is that: Traditional forensic pattern examination methods—as currently practiced—do not belong ...

- No Longer the Gold Standard: Probabilistic Genotyping is Changing the Nature of DNA

Evidence in Criminal Trials (<https://scholarship.law.berkeley.edu/bjcl/vol24/iss1/4/>), 6/26/2019

Author: Bess Stiffelman Esq.

- Ombudsman's Report (<https://www.ncdoj.gov/getdoc/da328def-dab5-4297-b85e-77bb490ca2cb/Report-of-the-Ombudsman.aspx>), 8/4/2011

Report submitted by Judge Vince Rozier during his time as Ombudsman to the SBI. The document includes a memo by Judge Joseph John responding to the recommendations of the Ombudsman. The report was released by the SBI in Aug. 2011.

- Predicting and Preventing Wrongful Convictions (<https://nij.gov/topics/justice-system/wrongful-convictions/pages/predicting-preventing.aspx>), 1/1/2012

NIJ-funded research that looked at 460 violent felonies between 1980 and 2012 to determine what factors led to a wrongful conviction of an innocent defendant instead of dismissal or acquittal. Factors identified by researchers include: a younger defendant, a criminal history, a weak prosecution case, prosecution withheld evidence, lying by a non-eyewitness, unintentional witness misidentification, ...

- Reference Manual on Scientific Evidence, Third Edition (https://www.nap.edu/catalog/13163/reference-manual-on-scientific-evidence-third-edition?utm_medium=email&utm_source=), 1/1/2011

The National Resource Counsel authored this manual to assist judges in cases involving scientific and technical evidence. There are chapters on admissibility of expert testimony, DNA evidence, statistics, toxicology, medical testimony, and many more forensic topics.

- Strengthening Forensic Science in the United States: A Path Forward (<https://www.ncjrs.gov/pdffiles1/nij/grants/228091.pdf>), 2/1/2009

2009 report by the National Academy of Sciences (known as the NAS Report) which found serious problems in forensic science research and practice and recommended an overhaul of the current structure that supports the forensic science community.

- The Need for a Research Culture in the Forensic Sciences (<http://www.uclalawreview.org/pdf/58-3-3.pdf>), 1/1/2011

by Jennifer L. Mnookin, Simon A. Cole, Itiel E. Dror, Barry A. J. Fisher, Max M. Houck, Keith Inman, David H. Kaye, Jonathan J. Koehler, Glenn Langenburg, D. Michael Risinger, Norah Rudin, Jay Siegel, and David A. Stoney. Explores to what extent forensic sciences need to change to develop a well-established scientific foundation. Finds that ...

Handwriting Analysis

- American Academy of Forensic Sciences Standards Board Documents (<http://www.asbstandardsboard.org/published-documents/>), 8/18/2020

The AAFS Standards Board develops documentary standards for forensics through a consensus process, involving participation by all directly and materially affected persons. Standards are being developed for each forensic discipline. The standards that have been published are available on the ASB website.

Mental Health

- “Selected Mental Health Issues in Criminal Cases” Provides a Guide on Capacity to Proceed (https://www.sog.unc.edu/sites/www.sog.unc.edu/files/course_materials/017-Rubin,%20John%20-%20Mental%20Health%20Issues%20in%20Criminal%20Cases.pdf), 5/4/2012
John Rubin, UNC School of Government (May 2012). Provides a user-friendly guide for defense attorneys in North Carolina by explaining the requirement of capacity, the procedure for determining capacity, the evidence involved in capacity evaluation, and various capacity issues that arise before and during formal proceedings.
- Determine Whether Your Client Has A Cognitive Disability: A Checklist (http://www.ncids.org/Defender%20Training/2005%20Fall%20Conference/Hartman_Checklist%20forattorneys.pdf), 6/8/2005
In 2005, The Partners in Justice created this checklist of common traits typical of individuals with a cognitive disability and screening questions an attorney can ask if they suspect their client has a cognitive disability.
- Mental Illness and the Death Penalty in North Carolina (https://www.aclu.org/sites/default/files/pdfs/capital/nc_mental_illness_report2007.pdf), 6/8/2007
2007 report by the American Civil Liberties Union on mental illness defenses and how they can be used under North Carolina statutes and case law.
- North Carolina Civil Commitment Manual: Chapter 7, Automatic Commitment—Not Guilty by Reason of Insanity (<https://defendermanuals.sog.unc.edu/civil-commitment/7-automatic-commitment—not-guilty-reason-insanity>), 6/8/2011
Chapter 7 of the North Carolina Civil Commitment Manual (2nd Ed. 2011) focuses on insanity and provides information specific to North Carolina for defense attorneys about the legal effect of a Not Guilty by Reason of Insanity plea, the legal definition of insanity, the offenses affected, and the burden of proof.
- North Carolina Civil Commitment Manual: Chapter 8, Commitment of Defendants Found Incapable of Proceeding (<https://defendermanuals.sog.unc.edu/civil-commitment/8-commitment-defendants-found-incapable-proceeding>), 6/4/2011
Chapter 8 of the North Carolina Civil Commitment Manual (2nd Ed. 2011) focuses on incapacity to proceed and includes a helpful capacity and commitment flowchart in Appendix 8-1.
- North Carolina Defender Manual: Chapter 2, Capacity to Proceed (<https://defendermanuals.sog.unc.edu/pretrial/2-capacity-proceed>), 6/4/2013
John Rubin & Alyson Grine, NORTH CAROLINA DEFENDER MANUAL, VOL. 1 PRETRIAL (2d ed. 2013). Discusses in detail the standards for capacity to proceed, how attorneys can recognize signs of impairment, the ethical concerns with questioning capacity, and the potential benefits and harms of raising an incapacity question.
- North Carolina IDS Policy on Effective Use of Mental Health Experts in Potentially Capital Cases

(<http://www.ncids.org/Rules%20&%20Procedures/Policies%20By%20Case%20Type/CapCases/MentalHealthExperts.pdf>), 6/4/2020

- North Carolina Juvenile Defender Manual: Chapter 7, Capacity to Proceed (<https://defendermanuals.sog.unc.edu/juvenile/7-capacity-proceed>), 10/4/2017
Chapter 7 of the Juvenile Defender's Manual (Oct. 2017) focuses on juvenile defenders who may lack the capacity to proceed.
- Report from the Incapacity to Proceed Committee of the North Carolina General Assembly (<https://www.ncleg.gov/documentsites/committees/lrc/2012%20Committee%20Reports%20to%20LRC/Incapacity%20to%20Proceed%20Committee.pdf>), 4/4/2012
April 2012 report created by the Incapacity to Proceed Committee of the North Carolina General Assembly which includes the Committee's findings and recommendations for future capacity to proceed legislation.
- The Diminished Capacity Defense (https://www.sog.unc.edu/sites/www.sog.unc.edu/files/reports/aojm9201_0.pdf), 9/1/1992
John Rubin, UNC School of Government (Sept. 1992). ADMINISTRATION OF JUSTICE MEMORANDUM No. 92/01. Discusses the nature of the diminished capacity defense as it is recognized in North Carolina, how the defense applies to various offenses, evidentiary problems that can arise when the defense is raised, the defendant's burden of presenting evidence, the prosecution's burden ...
- The Voluntary Intoxication Defense (https://www.sog.unc.edu/sites/www.sog.unc.edu/files/reports/aojm9301_0.pdf), 6/8/1993
A 1993 memorandum by John Rubin, Professor of Public Law and Government at UNC School of Government on the voluntary intoxication defense, its history, elements of the defense, applicability to different offenses, and evidentiary issues.
- Voluntary Intoxication, Mental Capacity, and Defensive Force: Eight Principles on Instructing the Jury (https://www.sog.unc.edu/sites/www.sog.unc.edu/files/course_materials/Eight%20Instruction%20Principles_0.pdf), 6/8/2011
John Rubin, Professor of Public Law and Government at UNC School of Government authored this document in June of 2011.

Toxicology

- American Academy of Forensic Sciences Standards Board Documents (<http://www.asbstandardsboard.org/published-documents/>), 8/18/2020
The AAES Standards Board develops documentary standards for forensics through a consensus process

The ANSI Standards Board develops documentary standards for forensics through a consensus process, involving participation by all directly and materially affected persons. Standards are being developed for each forensic discipline. The standards that have been published are available on the ASB website.

- Drug Testing in a Drug Court Environment: Common Issues to Address

(<https://www.ncjrs.gov/pdffiles1/ojp/181103.pdf>), 4/26/2019

Department of Justice article regarding issues raised by drug court programs regarding drug testing.

- Drug-Induced Homicide Defense Toolkit (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3265510), 12/18/2019

The Health In Justice Action Lab of the Northeastern University School of Law has created a toolkit for attorneys defending death by distribution of drugs. This toolkit will be useful to defenders in handling charges of this sort in NC, both for the old murder by distribution and the new death by distribution.

- Marijuana-Impaired Driving A Report to Congress

(<https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812440-marijuana-impaired-driving-report-to-congress.pdf>), 7/4/2017, NHTSA

July 2017 NHTSA report – The report describes the absorption, distribution and elimination of delta-9-tetrahydrocannabinol (THC) the primary psychoactive substance in marijuana, in the body. It contrasts this process with the absorption, distribution and elimination of alcohol in the body, as they are very different processes. The poor correlation of THC concentrations in the blood ...

- National District Attorney Association Resources

(<https://ndaa.org/resources/publications-videos/>), 4/26/2019

This National District Attorney Association has these and other guides for prosecutors available on their website: Cross-Examination for Prosecutors The Drug Evaluation and Classification (DEC) Program Drug Toxicology for Prosecutors Hardcore Drunk Driving Prosecutorial Guide: A Resource Outlining Prosecutorial Challenges, Effective Strategies and Model Programs Horizontal Gaze Nystagmus—The Science and the Law: A Resource Guide ...

- NHTSA Drug and Human Performance Fact Sheets

(https://www.wsp.wa.gov/breathtest/docs/webdms/DRE_Forms/Publications/drug/Human_Performance_Drug_Fact_Sheets-NHTSA.pdf), 4/1/2004

The National Highway Traffic Safety Administration offers information about the effects of impairing substances.

- NHTSA Training Manuals (<http://www.wsp.wa.gov/breathtest/dredocs.php>), 4/26/2019

The Washington State Patrol has posted the following manuals online: DWI Detection and Standardized Field Sobriety Testing, DRE, and Advanced Roadside Impaired Driving Enforcement (ARIDE). These manuals are available for download.

- OSAC Registry Approved Standards (<https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry>), 9/2/2020, NIST

Organization of Scientific Area Committees for Forensic Evidence (OSAC) is developing documentary standards for each forensic discipline. Standards under consideration as well as approved standards are available in the OSAC Registry.

- Therapeutic and toxic blood concentrations of nearly 1,000 drugs and other

xenobiotics (<https://cctforum.biomedcentral.com/articles/10.1186/cc11441>), 1/1/2014

This 2014 article lists the therapeutic, toxic, and fatal blood drug concentration levels for many controlled and non-controlled substances.

- Winek's Drug & Chemical Blood-Level Data

(https://abmdi.org/documents/winek_tox_data_2001.pdf), 1/1/2001

Reference cited by the NC State Crime Laboratory. Provides the normal, therapeutic, toxic, and lethal blood level for various drugs and their metabolites.

Trace Evidence

- A Simplified Guide to Trace Evidence

(<http://www.forensicsciencesimplified.org/trace/TraceEvidence.pdf>), 10/18/2020, FTCOE

Tiny fragments of physical evidence such as hairs, fibers from clothing or carpeting, or pieces of glass are examples of trace evidence, and can be transferred when two objects touch or when small particles are disbursed by an action or movement. This evidence can be used to reconstruct an event or indicate that a person ...

- Fire Research: Identifying Ignitable Liquids in Debris and Providing Error Rates to

Strengthen Testimony (<https://forensiccoe.org/private/5dc4579106adc>), 10/3/2020, NIJ

With funding from the NIJ, Dr. Michael Sigman and Mary Williams from University of Central Florida developed a method for analyzing fire debris samples that are highly contaminated with pyrolysis interferences. This technique provides an alternative objective method for classifying ignitable liquid residues, which is one of the only viable options for helping to progress ...

- OSAC Registry Approved Standards (<https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry>), 9/2/2020, NIST

Organization of Scientific Area Committees for Forensic Evidence (OSAC) is developing documentary standards for each forensic discipline. Standards under consideration as well as approved standards are available in the OSAC Registry.

The Forensic Resource Counsel provides assistance to North Carolina attorneys litigating scientific evidence issues.
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